



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,558	06/30/2001	Frank Rieck	ANWAL.030AUS	6487

7590 09/11/2002
MURAMATSU & ASSOCIATES
Suite 255
7700 Irvine Center Drive
Irvine, CA 92618

EXAMINER

CUEVAS, PEDRO J

ART UNIT PAPER NUMBER

2834

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/895,558

Applicant(s)

RIECK ET AL.

Examiner

Pedro J. Cuevas

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-14 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Solenoid Valve Having A Clapper Armature With Yoke Pins At The End, Remote From The Sealing Element.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 5-6, 8 and 9-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,840,193 to Schiel.

Schiel clearly teaches the construction of a solenoid valve having:

a valve housing (31) formed in one piece;

an electromagnet (30), which has:

a coil (3),

a yoke (4), and

a clapper armature (18) arranged in the fluid region; and

having at least:

a first valve seat (20), and

a sealing element (16) which can be actuated by the clapper armature and which co-operates with the first valve seat,

a shell-like form in the region of the arrangement thereof on the yoke pin (24);

characterised in that:

the yoke has yoke pins (24, 26) and the clapper armature is arranged on a yoke pin at the end thereof that is remote from the sealing element,

the first valve seat is pressed into the valve housing and, to compensate for manufacturing tolerances, the first valve seat is adjustable in terms of the relative position thereof to the clapper armature by pressing in the valve seat,

a first resilient element (21) is provided and acts on the sealing element for the purpose of a closure of the first valve seat by the sealing element,

a second resilient element (19) is provided and acts on the sealing element, which co-operates with the clapper armature, for the purpose of a raising of the sealing element from the first valve seat,

the first resilient element and the electromagnet co-operating in such a manner that, when the electromagnet is excited, the sealing element is lifted away from the first valve seat and, when the electromagnet is not excited, the sealing element comes into closing contact with the first valve seat owing to the force of the first resilient element,

a second valve seat (17) is provided and co-operates with a sealing element which can be actuated by the clapper armature, and

the two valve seats which are pressed into the valve housing are provided, the sealing element which can be actuated by the clapper armature being arranged between the two valve seats and the relative position of the valve seats to each other and to the clapper armature being adjustable by pressing in the valve seats.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,840,193 to Schiel in view of U.S. Patent No. 5,791,339 to Winter.

Schiel disclose the construction of solenoid valve as described above.

However, it fails to disclose a coil is wound directly onto the valve housing.

Winter teach the construction of a spring piloted safety valve with jet venturi bias having a coil (40), which is wound directly onto the also unitary valve housing (23) for the purpose of providing a biasing force that urges the armature to the armature closed position.

It would have been obvious to one skilled in the art at the time the invention was made to use the spring piloted safety valve with jet venturi bias disclosed by Winter on the solenoid valve disclosed by Schiel for the purpose of providing a biasing force that urges the armature to the armature closed position.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,840,193 to Schiel in view of U.S. Patent No. 5,040,567 to Nestler et al.

Schiel disclose the construction of solenoid valve as described above.

However, it fails to disclose an armature being pressed onto the yoke pin by means of a spring.

Nestler et al. teach the construction of a multi-way valve having an armature (38) being pressed onto the yoke corner by means of a spring (46) for the purpose of pressing the armature against the end region of the actuating member (20) in the vicinity of closing body (24).

It would have been obvious to one skilled in the art at the time the invention was made to use the spring and armature arrangement disclosed by Nestler et al. on the solenoid valve disclosed by Schiel for the purpose of pressing the armature against the end region of the actuating member in the vicinity of closing body.

Allowable Subject Matter

7. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: neither Schiel, Winter, Nestler et al., or the prior art found by the examiner teach the construction of a solenoid valve characterised in that the clapper armature is guided through the coil.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Application/Control Number: 09/895,558
Art Unit: 2834


Page 6

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas
September 5, 2002


NESTOR RAMIREZ
SUPERVISOR, REGENT EXAMINER
TECHNOLOGY CENTER 2800